Beam-Deflection Tube

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (Design-Maximum Values):
  Voltage (AC or DC) ................. 6.3 ± 0.6 volts
  Current at heater volts = 6.3 ...... 0.300 amp

Direct Interelectrode Capacitances:
  Grid No.1 to all other electrodes
    except both plates .......... 7.5 µf
  Grid No.1 to deflecting
    electrode No.1 .. 0.04 max. µf
  Grid No.1 to deflecting
    electrode No.2 ...... 0.07 max. µf
  Plate No.1 to all other electrodes. 5.0 µf
  Plate No.2 to all other electrodes. 5.0 µf
  Plate No.1 to plate No.2 ...... 0.4 µf
  Deflecting electrode No.1
to all other electrodes ...... 4.8 µf
  Deflecting electrode No.2
to all other electrodes ...... 4.8 µf
  Deflecting electrode No.1
to deflecting electrode No.2 .. 0.38 µf

Characteristics, Class A Amplifier:

With both plates connected together and with both deflecting electrodes connected to cathode at socket

Plate-No.1 Supply Voltage ........ 250 volts
Plate-No.2 Supply Voltage ........ 250 volts
Grid-No.3 Voltage ................. 250 volts
Cathode Resistor .................. 220 ohms
Total Plate Current ............... 14 ma
Grid-No.3 Current ................. 1.5 ma
Transconductance ................. 4400 µmhos
Grid-No.1 Voltage (Approx.)
  for total plate µa = 10 ........ -13 volts

Mechanical:

Operating Position ................ Any
Type of Cathode .................. Coated Unipotential
Maximum Overall Length ........... 2-5/8"
Maximum Seated Length ............ 2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) ... 2" ± 3/32"
Diameter ......................... 0.750" to 0.875"
Dimensional Outline ............... See General Section
Bulb ................................... 76-1/2
Base .................................. Small-Button Noval 9-Pin (JEDEC No.E9-1)
COLOR-TV DEMODULATOR

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE (Each plate) .... 330 max. volts
PEAK DEFLECTING-ELECTRODE VOLTAGE
(Each electrode):
  Negative value ............. 165 max. volts
  Positive value ............. 165 max. volts
GRID-No.3 (ACCELERATING-GRID)
VOLTAGE ................... 330 max. volts
GRID-No.2 (FOCUSING-GRID)
VOLTAGE ................... Connect to cathode at socket
GRID-No.1 (CONTROL-GRID) VOLTAGE:
  Positive-bias value ......... 0 max. volts
GRID-No.3 INPUT ............. 1 max. watt
CATHODE CURRENT ............. 33 max. ma
PLATE DISSIPATION (Each plate) .. 3 max. watts

Typical Operation:
Plate Supply Voltage (Each plate) 250 volts
Grid-No.3 Voltage ............. 250 volts
Grid No.2 .................. Connected to cathode at socket
Cathode Resistor ............. 220 ohms
Maximum Deflecting-Electrode
  Switching Voltagee .......... 20 volts
Deflecting-Electrode Voltage
  for minimum deflecting-
  electrode switching voltagee .. -14 volts
Voltage Difference Between
  Deflecting Electrodes for
  plate-No.1 current and plate-
  No.2 current to be equal .... 0 volts
Maximum Plate-No.1 Current
  for deflecting-electrode-No.1
  volts = -15, and deflecting-
  electrode-No.2 volts = +15 .... 0.7 ma
Maximum Plate-No.2 Current
  for deflecting-electrode-No.1
  volts = +15, and deflecting-
  electrode-No.2 volts = -15 .... 0.7 ma
Maximum Deflecting-Electrode-No.1
Current for deflecting-
electrode-No.1 volts = +25,
and deflecting-electrode-No.2
volts = -25 ................ 0.1 ma

Maximum Deflecting-Electrode-No.2
Current for deflecting-
electrode-No.1 volts = -25,
and deflecting-electrode-No.2
volts = +25 ................ 0.1 ma

Maximum Circuit Values:
Grid-No.1-Circuit Resistance:
For fixed-bias operation........ 0.1 max. megohm
For cathode-bias operation....... 0.25 max. megohm

\[ a \] Without external shield.
\[ b \] Pin 5 should be connected directly to cathode at socket.
\[ c \] The Deflecting-Electrode Switching Voltage is the total voltage change
on either deflecting electrode with an equal and opposite voltage change
on the other deflecting electrode required to switch the plate current
from one plate to the other plate.

OPERATING CONSIDERATIONS
This type should be located in equipment so that it is
not subjected to stray magnetic fields which may affect the
intrinsic operating plate-current balance.
Average Plate Characteristics

$E_t = 6.3$ VOLTS

PLATE No. 2 CONNECTED TO PLATE No. 1 AT SOCKET.

DEFLECTING ELECTRODES No. 1 AND No. 2 AND GRID No. 2 CONNECTED TO CATHODE AT SOCKET.

GRID No. 3 VOLTS = 250

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DATA 2

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Average Characteristics

\[ E_t = 6.3 \text{ VOLTS} \]
Plate - No. 1 VOLTS = 250
Plate - No. 2 VOLTS = 250
Deflecting - Electrode Bias VOLTS = 0
Grid - No. 3 VOLTS = 250
Grid No. 2 CONNECTED TO CATHODE AT SOCKET.

[Diagram of an electron tube characteristic curve showing plate current (I_b) vs. grid voltage (V_g) and plate voltage (V_p).]
**Average Characteristics**

\[ E_f = 6.3 \text{ VOLTS} \]

**PLATE - No. 1 VOLTS = 250**

**PLATE - No. 2 VOLTS = 250**

**DEFLECTING ELECTRODES No. 1 AND No. 2 AND GRID No. 2 CONNECTED TO CATHODE AT SOCKET.**

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**E_f = 6.3 \text{ VOLTS}**

**PLATE - No. 1 VOLTS = 250**

**PLATE - No. 2 VOLTS = 250**

**DEFLECTING ELECTRODES No. 1 AND No. 2 AND GRID No. 2 CONNECTED TO CATHODE AT SOCKET.**

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**DATA 5**

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Electronic Components and Devices

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